UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,983	11/18/2003	Eliezer Levy	200301701-2	4901

7590   05/22/2006

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EXAMINER
CALDWELL, MICHAEL J

ART UNIT	PAPER NUMBER
2129	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/715,983	LEVY ET AL.
	Examiner	Art Unit	
	Michael Caldwell	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11/18/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *11/18/2003*.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   This office action is responsive to application 10/715983 filed November 7th,

2003, which claims priority as continuation to parent application 09/823337, filed March

29th, 2001. Claims 1-9 have been examined.

2.   The Information Disclosure Statement (IDS) submitted on November 18th, 2003

is in compliance with the provisions of 37 C.F.R. 1.97. Accordingly, the IDS is being

considered by the examiner.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

As described through the claims outlined below, the claimed invention does not

physically transform an article or physical object to a different state or thing; therefore to

be eligible for patent protection, the claimed invention as a whole must accomplish a

practical application. That is, it must produce a "useful, concrete and tangible result."

State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. The purpose of this

requirement is to limit patent protection to inventions that possess a certain level of "real

world" value, as opposed to subject matter that represents nothing more than an idea or

concept. The Supreme Court has specifically identified three categories of nonstatutory

subject matter: laws of nature, natural phenomena, and abstract ideas. These are not

categories of invention. See *Diamond v. Diehr*, 450 U.S. at 175, 209 USPQ 1 (1981).

However when an abstract idea is reduced to a practical application, the abstract idea

no longer stands alone if the practical application of the abstract idea produces a useful,

concrete and tangible result. This then satisfies the requirements of 35 U.S.C. 101. [See

State Street Bank & Trust Co. v. Signature Financial Group. Inc., 47 USPQ2d 1596,

1601-02 (Fed. Cir. 1998); *In re Alappat.*, 31 USPQ 2d 1545, 1558 (Fed. Cir. 1994)]

Claims 1-9 are rejected under 35 U.S.C. §101 because the claimed invention is

directed to non-statutory subject matter. The functions of the system of claim 1, namely

joining a first and second trigger tree and a respective operator tree via a flow operator

and interconnecting an ordered union operator between the second trigger tree and its

flow operator, does not result in any post-solution activity that is of real world result,

therefore is considered an abstract manipulation of data, which is not tangible, patent-

eligible subject matter. It is not clear within the claims how joining and interconnecting

trees will produce any outcome. If this invention were to be directed towards storing this

information for further use by a computer, which in turn produces a useful, real-world

result, or directed towards displaying this information to a human operator, for example,

the invention would contain tangible embodiments that would overcome such a 35

U.S.C. §101 patentability rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

Claims 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (US Patent 6,374,236, herein referred to as Chen). Examiner suggests applicant review the entire teaching of Chen, as its entire teachings have been relied upon. When referring to a column and line number of the reference, the following nomenclature is used: CX, LY-Z representing column X, lines Y-Z.

Regarding claim 6

6. A method (abstract), comprising:

executing a first type of triggers (C 6, L 6-14, where there are AFTER, BEFORE and INSTEAD OF types of triggers) in parallel with each other (C 2, L 12-23, also C 2, L 56-64);

pipelining the first type of triggers with an activating statement (C 2, L 12-23, as well as C 9, L 37-60 where pipelining is achieved through the use of the spool file, allowing all executing triggers and triggering actions access to the data on which they operate); and

executing a second type of triggers in parallel with each other and subsequent to the activating statement (C 6, L 6-14, where there are AFTER, BEFORE and INSTEAD OF types of triggers, AFTER-type triggers operating subsequent to the activating statement).

Regarding claim 7

7. The method of claim 6 further comprising creating a temporary table, wherein the temporary table comprises rows of a input table that are affected by the activating

statement (C 2, L 12-23, as well as C 9, L 37-60 where Chen discusses the spool as a

temporary table)

Regarding claim 8

8. The method of claim 7 further comprising providing the rows of the temporary

table as input to the first type of triggers (C 8, L 63 through C 9, L 2; "...only the

necessary rows 304 may need to be accessed by the triggered

actions").

Regarding claim 9

9. The method of claim 6 further comprising: forming a plurality of execution

plans associated with executing the first type of triggers (C 9, L 9-17 where it states

"...generate more efficient execution plans for the triggering

events and triggered actions..."), pipelining the first type of triggers with the

activating statement (C 2, L 12-23, as well as C 9, L 37-60 where pipelining is achieved

through the use of the spool file, allowing all executing triggers and triggering actions

access to the data on which they operate); and executing the second type of triggers (C

6, L 6-14); and evaluating the plans in terms of a performance metric (in creating a

plurality of plans which are capable of resulting in faster execution of trigger events and

actions, the performance metric of the selected plan, specifically cost of operation, as

well as others which weren't selected must inherently be known, as is the general

purpose and use of query optimizers and execution plans)

Citation of Pertinent References

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. It is suggested applicant review the teachings of these

references to gain an understanding of the state of the art at the time of applicant's

invention.

US 5864842   Optimization of SQL queries using hash star join operations

Pederson; Donald Raymond et al.

US 5873075   Synchronization of SQL actions in a relational database system

Cochrane; Roberta Jo et al.

US 5884299   Optimization of SQL queries involving aggregate expressions...

Ramesh; Bhashyam et al.

US 6014655   Method of retrieving database

Fujiwara; Shinji et al.

EP 1111516   Method and apparatus for parallel execution of trigger actions

Kabra, Navin et al.

US 6374236   Parallel optimized triggers in parallel processing database systems

Chen; James et al.

US 6405212   Database system event triggers

Samu; Sriram et al.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Caldwell whose telephone number is (571) 272-1942. The examiner can normally be reached on Mon-Fri 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Caldwell

Examiner

Art Unit 2129

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DAVID VINCENT
SUPERVISORY PATENT EXAMINER